

## EXPERIMENT STATION WORK

Many States Show Increased Interest by Larger Appropriations.

### THE VIRGINIA STATION

An Awakened Concern Among the Farmers for Scientific Truth.

The increasing interest in Experiment Station work is shown by the liberal appropriations made in many States for their maintenance.

Probably most people are familiar with the fact that stations were originally organized under the Hatch Act, which provides that \$15,000 a year of Federal money shall be given to each State maintaining a station. This money is to be expended for original investigation relative to problems which confront the farmers of that immediate section, and not for the purpose of disseminating general information or promoting the individual interests of some individual or corporation who has an axe to grind. It is furthermore stated in the organic law of the stations, that the funds provided shall not be used, except in very limited amounts, for the erection of buildings or the purchase of land, it being expected that the equipment needed by the station and the funds for its future growth and development would be supplied by the States accepting the Federal fund.

The Virginia station has had a long and honorable career, but up to this present time it has never received any direct support from the State; and this fact should be carefully noted. When it is considered that the station is supposed to carry on investigations relative to practically every interest of the farmers of Virginia, it is not surprising that the sum of \$15,000, which it has hitherto received, should prove totally inadequate for the tasks set before it. The station is supposed to employ the most reliable and successful scientists in the field of general agriculture, animal husbandry, dairying, botany, entomology, horticulture, entomology, veterinary science and field experiments. Clerical services must also be available in order that the thousands of letters annually received may be properly answered, and the bulletins giving the results of investigations distributed. It is not surprising, therefore, in view of the expert services which the station is supposed to have that from \$5,000.00 to \$9,000.00 of its funds should annually be spent for salaries, while even then the men employed do not receive very liberal remuneration for their services. With \$2,000.00 spent for labor and \$1,000.00 for publications, and the necessary postage, freight and express, heat, light, power and water, chemical supplies, seeds, fertilizers, food-stuffs, etc., the \$15,000.00 is gone and very little apparently left with which to accomplish work of scientific value and conduct original investigations. A better understanding of these matters would probably result in something more than adverse criticism.

EXPERIMENTAL WORK.  
In view of the general interest that seems to have been awakened in the work of the Virginia Experiment Station, it seems appropriate that some statement with reference to the various lines of work in progress which have a definite bearing on the agricultural economics of the State, should be presented for the consideration of Virginia farmers, since this is the only institution in the State where original research is in progress for the benefit of agriculture. Although that is the interest in which by far the larger part of our people are engaged, and in which property is invested, it does not seem reasonable to suppose that if the farmers of the State are informed as to the value of the work now in progress and the benefits to be derived from it, they would hesitate to demand that the station receive adequate State support in the future.

The claim is frequently made that the work of the Experiment Station and the bulletins issued therefrom are beyond

## Just Nine Years Ago the Famous Globe Was Established.

The Globe invites you to call and inspect the new stock for fall and winter. Elaborate displays of men's and boys' apparel in the very newest fashions will mark this event. Every aim and effort of this firm is in the direction of the public's welfare.

The entire second floor of our immense building is devoted to the sale of children's clothing. We offer no inducements except the best goods for the least money that expert tailors can produce.

### Boys' Fall Knee Pants Suits.

New Novelty Styles.

Extra serviceable garments, in plain and fancy Cassimeres, suitable for school wear; sizes 3 to 17; all new fall patterns.

**\$1.48 and \$1.98.**

### Boys' All-Wool Knee Pants Suits.

In Norfolk and Double-Breasted Styles.

All the newest styles and patterns are included; rough and smooth finished fabrics; extra well made and sewed throughout with the famous iron-grip stitch.

**\$2.48 and \$2.98.**

### Exclusive Styles in Boys' Suits.

A marvelous display of new novelty fashions in the very finest All-Wool Cheviots, Scotchies, Serges and Worsteds, in styles that combine a beauty, fit and durability that is unequalled.

**\$3.98 and \$5.00.**

**BOYS' KNEE PANTS SUITS.**  
Flyer, No one has the nerve to offer this \$1.29 kind of value except The Globe.

Our best advertisements are not printed, they are worn.

**THE GLOBE**  
BROAD AND SEVENTH STS.

the understanding of the average farmer. This is not true, as it implies a degree of ignorance and inability to conceive facts on the part of the farmer which is little short of slander. After years of work in farmers' institutes and other organizations by which the writer has been brought directly in contact with farmers he has come to appreciate very clearly that they are anything but a stupid, ignorant lot of men; that they can grasp facts relative to their business clearly and quickly. Furthermore, it is evident that if the bulletins of the station and the work in progress dealt with known conditions, they would not provide new and useful information for farmers.

The following statements set forth some of the more important facts in connection with the station's work, which show its merit and that the results obtained are of immense value to

all those who make their living from the soil. The statements are relative and not absolute, as it would be manifestly impossible to make them so. Only a few examples are given of the very many that constantly come to the attention of those in charge of the work.

Virginia has a large and growing interest in animal industries, and the economic maintenance of beef and dairy cattle is, therefore, a subject of great importance. In a recent feeding test with six head of best cattle it was found that the twenty head of cattle receiving silage gained 5,100 pounds in 40 days, or 1.46 pounds per head per day; the twenty receiving hay, gained 3,900 pounds, or 1.10 pounds per head per day; and the twenty receiving stover, gained 3,400 pounds, or .97 pounds per head per day. As these cattle received the same kind of meal, yet the difference was considerable, due to the effect of the roughness used. The silage fed cattle, for instance, gained 1,200 pounds more than the cattle fed hay, and 1,700 pounds more than the cattle fed stover. Of course, silage cannot be fed for all purposes, and under all circumstances, but thousands of silos could be built, and profitably utilized, in Virginia, where there are now none.

THE FINANCIAL SIDE.  
Then, the financial side of the question is worth considering, for silage can be made at a cost of \$2 per ton, whereas, the Timothy hay used in these experiments was valued on the farm at \$8, and outlined at \$5. Under the conditions that could be annually fed in Virginia on silage, made fat and of superior quality for slaughter, and the Timothy hay now so generally fed, sold for \$10 to \$15 a ton. The cotton seed meal fed with the silage and corn would more than replace the fertility contained in the hay and the farmer would be ahead in every respect.

The twelfth census shows that 943,079 tons of hay were produced in the State at a value of \$7,690,082. Replacing the \$10 to \$15 a ton hay with \$2 silage and cotton seed meal would effect a saving of several million dollars annually to the farmers of Virginia. If the station had done nothing else since its organization and conducted no further experiments, it would have paid for itself a thousand times over by this single demonstration.

In an experiment conducted with 34 dairy cows during the past winter Timothy hay was fed against corn stover as a roughness in conjunction with silage, while not quite equal to Timothy hay, could be used fairly well to replace it in a ration for dairy cows. This is another fact of vast importance. In this trial it was further shown that concentrates are chiefly valuable for the protein they contain. In other words, that cotton seed meal containing 37.2 per cent. of digestible protein and costing about \$25.00 to \$27.00 a ton, was worth about three times as much as wheat bran, containing 12 per cent. of digestible protein and costing from \$2.00 to \$3.00 a ton. It has been a common practice in the past for farmers to use wheat bran in preference to cotton seed meal and other concentrated, protein bearing foods, because they did not understand the basis on which the value of foods should be estimated.

YIELD OF CORN.  
The average yield of corn in Virginia is about 22 bushels per acre. If corn were planted in hills 30 inches apart each way, there would be 4,000 hills per acre. If two stalks were allowed to grow in each hill there would be 8,000 stalks per acre. If each stalk yielded 2.5 ounces. As a matter of fact, the ears of corn produced are much larger than this, but it is still evident that the stand is very imperfect, that the development of the ears is below a suitable standard. In other words, the se-

lection and improvement of corn and other cereals is a subject which has been grievously neglected. If only a quarter of an ounce of grain were added to each of the 8,000 stalks indicated above, the yield of the corn in the State would be increased this year by four and a half million bushels, with a value of \$2,250,000. Numerous experiments are in progress on the station farm with the object of securing improved strains of cereals, grasses, legumes, potatoes, etc. As these strains are developed and improved methods of selection and propagation, they will be distributed to a limited number of farmers for propagation in their section and redistributed to neighboring farmers who may be interested in their culture. By these methods, in the course of a few years, it is believed that a work of immense value will be accomplished, for it is clearly recognized that imperfect methods of cultivation and fertilization and the use of unsatisfactory varieties is largely responsible for the small yields of corn and other cereals now obtained. This is but one example of many that might be given to show the value of the field investigations now in progress at the station.

The Virginia experiment station has taken a very active part in the development of the horticultural interests of the State, and to its efforts are due in a large measure the successful development of the apple industry. Valuable information has been disseminated concerning planting, pruning and spraying fruit trees and the control of insect pests. Detailed statement of the useful work done cannot be given at this time, nor can the results flowing from it be correctly estimated. One example indicative of its value must be incorporated, before passing to another topic. Virginia has shipped 833,541 barrels of apples during the last five years. On the basis of \$2 per barrel, this total would represent \$1,667,082. One-half of this output would have been worthless had not the depredations of the San Jose scale been effectually checked. The laws governing the control and eradication of this pest were enacted largely through the efforts of the station officers, and practically all the information of value that has been disseminated in the State with reference to it, has come from the same source.

BACTERIAL INFLUENCE.  
Bacteria are closely related to the various processes connected with plant growth and development. Recently artificial cultures for the inoculation of legumes have been placed on the market, \$1.50 to \$2 being asked for enough of the commercial product to inoculate an acre of land. The low cost of the material makes this price unreasonable, and in order that the interests of the farmer might be fully protected, the station has undertaken to prepare these cultures and distribute them at a cost of 25 cents per acre. Material will be sent out the present year for more than 3,000 acres of land, so that the saving effected in this direction alone amounts to \$750,000 or over one-third of the entire sum expended by the station during the past fiscal year.

This department has also made some careful microscopic investigations of patent foods placed on the market. The average retail price of these foods is \$38.47, but their real value per ton is little above that of the best of the food-stuffs, wheat bran, cotton seed meal, grape meal, etc., to which was added a little salt, gentian, fenugreek, charcoal, etc. Their medicinal value is not worth considering, yet their purchase and use represents an immense drain on the resources of the farmer, for which he receives no adequate return. In pointing out the utter worthlessness of these foods, the station has rendered a service to the farmers of the State worth hundreds of thousands of dollars.

The dairy department has not been idle. It has shown that by proper care and treatment cream can be shipped from Virginia to New Orleans, Palm Beach, Fla., and various other points from 1,000 to 1,200 miles distant. As milk and butter can be made at a reasonable price in Virginia, this opens up a market for the sale of dairy products at profit. The present unavailability of some of the food-stuffs has also given the dairy department advice and suggestions to any farmers engaged in the manufacture of butter and cheese and in the sale of milk and cream. It has shown them how to install apparatus that has enabled them to cheapen the cost of production very materially, and place their output on the market in first class condition. There are farmers in Virginia who are making \$100 profit per year who were discouraged and ready to abandon the business until the dairy department of the station came to their assistance. It is not possible to estimate the real value of the station's work, but it has rendered aid and influenced men in almost every county in the State and enabled them to establish profitable industries where failure had previously attended their efforts.

A single example will show the value of the entomological work being done by the experiment station. Recently a ship-

### What Sulphur Does

For the Human Body in Health and Disease.

The mention of sulphur will recall to many of us the early days when our grandmothers gave us our daily dose of sulphur and molasses every spring and fall.

It was the universal spring and fall "blood purifier," tonic and cure-all, and, mind you, this old-fashioned remedy was not without merit.

The idea was good, but the remedy was crude and unpalatable, and a large quantity had to be taken to get any effect.

Nowadays we get all the beneficial effects of sulphur in a palatable, concentrated form, so that a single grain of Sulphur acts more effectively than a tablespoonful of the crude sulphur.

In recent years research and experiment have proven that the best sulphur for medicinal use is that obtained from Calcium (Calcium Sulphide) and sold in drug stores under the name of Stuart's Calcium Wafer. They are small chocolate coated pellets and contain the active medicinal principle of sulphur in a highly concentrated, effective form.

Few people are aware of the value of this form of sulphur in restoring and purifying the body. It is a reliable purgative and acts directly on the liver and excretory organs, and purifies and enriches the blood by the prompt elimination of waste material.

Our grandmothers knew this when they gave us the sulphur and molasses every spring and fall, but the crudity and impurity of ordinary flowers of sulphur were often worse than the disease they were intended to cure. Compare with the modern concentrated preparations of sulphur, of which Stuart's Calcium Wafer is undoubtedly the best and most widely used.

## Our Stores for Bargains.

Best American Granulated Sugar	5c	Best American Sardines, 9 cans for	25c
Best Breakfast Bacon, pound	12c	Small Country Hams, pound	15c
New Raisins, pound	8c	Two pounds Mountain Roll Butter for	25c
Good Hay, hundred	75c	Best California Hams, per pound	9c
Oats, bushel	35c	Sterling Soap, octagon shape, 8 bars	25c
New Codfish, in one-pound breaks, 6c; Shredded Codfish, package	5c	Snow Flake Patent Family Flour, 30c bag, or barrel	\$4.75
Country Joles, pound	5c	Best Ship Stuff and Bran, per hundred	\$1.00
Quart cans Maple Syrup, can	25c	Duffy's Malt Whiskey, bottle	80c
Best Potted Ham or Tongue, can	3c	Pure Cider Vinegar, for pickling, per gallon	20c
Home-made Mince Meat, pound	6c	Best Quality Ginger Snaps or Soda Crackers, per pound	4c
Best quality Cream Cheese, pound	15c	Oyster Crackers, pound	6c
Home-made Preserves, 3-pound jars	18c	Cracker Dust, pound	5c
Grape Nuts, package	12c	Best City Meal, per peck, 17c; per bushel	68c
Postum Cereal, package	12c	Two pounds best Jefferson Coffee, one-pound papers	25c
New Dates, pound	5c	Whole Sweet Pickles, quart	10c
Pickling Spices, pound	20c	Ship Stuff, Brown Stuff or Bran, per hundred	\$1.00
Silver King and all Popular Brands Flour, 82c bag, or barrel	\$5.00		

## S. ULLMAN'S SON, Wholesale and Retail Grocer.

OLDEST AND CHEAPEST GROCERY STORES IN THE CITY.

Main Street Stores—1800-1820 East Main Street. 'Phone 318. Marshall Street Store—500 East Marshall Street. 'Phone 84. Remittances Must Accompany all Shipping Orders. Our New Price List Mailed on Application.

ment of 3,000 diseased trees were destroyed. Valuing the trees at 10 cents each, 300 was thus saved to the planters, not to speak of the loss of the land and the disappointment and destruction of the orchard in the course of a few years from crown gall, the disease with which the trees were affected. The entomological department has also shown that the cost of producing the lime-sulphur wash for the San Jose scale should not exceed 1-4 cent per gallon, which would make 250 gallons cost about \$4.17, while the cost of Con-sol, one of the generally advertised washes, would be \$50.00. The saving effected on a single fruit farm would thus often amount to \$50.00. This applied to all the orchards of the State totals up a very large sum.

In many ways very important work has been accomplished. A number of plant diseases have been very carefully studied, and methods devised for their eradication and control. Excellent work has been done on the canning of fruit and vegetables, and the results published for the benefit of those interested in this line. Special studies have been made on the manufacture of ciders and vinegars of standard quality through the use of pure cultures of yeast, and it has been clearly shown that the sale of bushels of undesirable apples which are often allowed to go to waste, can be utilized to advantage and at a large profit, for the manufacture of palatable cider through the culture of these yeasts. The station has sent out a number of these cultures at a very low price, and some of the State providing we ignore the thousands of animals which the use of the vaccine has saved. More than 500 important letters dealing with various diseases are answered by the department each year. These have at least a money value of \$1,000, while the free advice and other work done without charge for the benefit of the farmers will annually total up \$1,000.00.

AN INFORMATION BUREAU.  
There is another feature of the station's work which is worthy of special mention, and that is the correspondence through which information of immense value is given to farmers. During the present year at least 16,000 letters have been received and answered, and these replies have certainly been worth \$1 apiece. Some farmers have written and stated that the replies were worth hundreds of dollars to them. So that in the few years since the station was founded, the free advice and other work done without charge for the benefit of the farmers will annually total up \$1,000.00.

During the past year between thirty and forty farmers' institutes have been attended, and addresses delivered before between 8,000 and 10,000 farmers. These addresses covered subjects of vital concern to stockmen and farmers and have done much to encourage and inspire those who have not had an opportunity previously to come in touch with scientific truths on which profitable agricultural practice must be based in the future. Already applications have been received for many institutes during the next fall and winter, showing that the effort put forth has been productive of much good, and has resulted in the stimulation of an interest in modern agricultural practice, which heretofore did not exist.

The station also publishes bulletins from time to time. During the present year some six of these will be issued, besides the annual report covering more than 200 pages, and representing original work. Some of the papers presented in these bulletins have already been touched on in the foregoing paragraphs, and the results obtained have brought to light questions which merit serious consideration at the hands of thoughtful persons. Our bulletins are published in editions of 15,000, so that more than 10,000 pamphlets will be distributed during the course of the year.

Numerous articles have been contributed to the agricultural press, and a short press bulletin dealing with some pertinent topic is sent out each month. In this way thousands of farmers are reached who do not receive the bulletins, and though they are free for the asking, so that every possible means is utilized that the facts discovered by the station may be disseminated and made available to farmers in every section of the State.

It is thus apparent that the station is endeavoring to lead and guide the ag-

## PIANOS

FOR YOUR

### New House

Slightly used Pianos this week,

**\$135, \$150, \$165  
\$185 and \$200.**

We always have in stock what we advertise.

## FERGUSON BROS.

## DUNLOP PATENT FLOUR

Dunlop Flour is made from the best winter wheat, so carefully milled that all the wheat flavor and strength is retained. It is pure, nutritious and guaranteed to be the very best flour made. Sold by all grocers. Take no substitutes.

**DUNLOP MILLS, RICHMOND, VA.**

## 1427 E. Main St., JOHN H. ROSE & CO.

We make a specialty of putting in

Hot Air Furnaces,

Latrobe Heaters,

Sanitary Plumbing

Fixtures,

Tin Work of all Kinds.

Now is season to let us figure with you.

## JOHN H. ROSE & CO.,

Established 1865.

'Phone 511.

## MILL CREEK DISTILLING COMPANY, RYE, CINCINNATI OHIO.

### STRAIGHT BONDED WHISKEY

Recommended for Medicinal and Family Use.

Sold by all First-class Dealers.

G. A. CUNNINGHAM,

General Agent,

Richmond, Va.

## 703 East Broad Street

18 HEADQUARTERS FOR THE

Best and Cheapest

Trunks,

Suit Cases,

Bags,

and all kinds of

Leather Goods.

Direct from factory to consumer at retail.

H. W.

ROUNTREE & BRO.

TRUNK & BAG CO.

## RYAN SMITH & SONS, The Temple Store, BROAD & ADAMS STS.

The Greatness of This Store's Big Stock of

## Furniture and Carpets

is unequalled by any other store and surpasses any former effort to give buyers of Housefurnishings the best possible values for the least money, and without extra charge you get

.. All the Credit You Want ..

### Druggets

In a great variety of patterns and prices in

Axminster, Wilton Velvets, Brussels, Smyrna, and Ingrain.

A good Ingrain Druggett size 9x12 feet,

\$4.80

**Mattings, Oilcloths and Linoleum**  
ALL FLOOR COVERINGS LAID FREE.

Sole Agents for "Gunn" Sectional Bookcases, "Hoosier" Kitchen Cabinets.

### Carpets

In Velvets, Brussels, Ingrain.

A durable, reversible Stair Brussels at

45c yd.

Rugs, in all sizes, up from

75c.